

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A brake device for a motor vehicle comprising:
 - a fluid pressure brake that applies fluid pressure brake torque to a wheel;
 - a wheel-cylinder pressure passage that is fluidically connected with the fluid pressure brake to provide the fluid pressure brake with wheel-cylinder pressure to generate the fluid pressure brake torque;
 - an on-demand brake pressure passage that is fluidically connectable with the wheel-cylinder pressure passage to determine on-demand brake torque;
 - a brake reaction torque detector configured to detect a brake reaction torque inputted to the fluid pressure brake; [[and]]
 - a wheel-cylinder pressure modulator valve that is fluidically connected with the wheel-cylinder pressure passage and the on-demand brake pressure passage, the wheel-cylinder pressure modulator valve being capable of modulating the wheel-cylinder pressure so that the fluid pressure brake torque can be decreased based on the brake reaction torque and the on-demand brake torque,

wherein the brake reaction torque detector includes a machine-side cylindrical case with a working arm that is provided swingably relative to a vehicle body member so that the brake reaction torque of the fluid pressure brake can be changed into a displacement in a swing movement of the working arm so as to apply the brake reaction torque to a valve of the wheel-cylinder pressure modulator valve,

wherein the vehicle body member is formed with an on-demand brake fluid pressure chamber fluidically connected with the on-demand brake pressure passage, a wheel-cylinder fluid pressure chamber fluidically connected with the wheel-cylinder fluid passage and a return fluid pressure chamber fluidically connected with a return passage,

wherein an orifice is provided in a first communicating fluid pressure passage between the on-demand brake fluid pressure chamber and the wheel-cylinder fluid pressure chamber,

wherein the wheel-cylinder pressure modulator valve is provided in a second communicating fluid pressure passage between the wheel-cylinder fluid pressure chamber and the return fluid pressure chamber, and

wherein the wheel-cylinder pressure modulator valve has a mechanical feedback mechanism for modulating the wheel cylinder fluid pressure so that a sum torque of the brake reaction torque applied through the working arm in an opening direction and the fluid pressure brake torque due to the wheel cylinder fluid pressure in the opening direction can be balanced with the on-demand brake torque due to an on-demand brake fluid pressure generated in the on-demand brake pressure passage.

2. (Previously Presented) The brake device according to claim 1, further comprising an electric motor that is capable of applying regenerative brake torque to the wheel,

wherein the brake reaction torque detected by the brake reaction torque detector is generated due to the regenerative brake torque.

3. (Previously Presented) The brake device according to claim 2, wherein the wheel-cylinder pressure modulator valve decreases the wheel-cylinder pressure so that a sum torque of the regenerative brake torque and the fluid pressure brake torque can be balanced with the on-demand brake torque.

4. (Cancelled)

5. (Currently Amended) The brake device according to claim [[4]] 1, further comprising a drive device that is contained in the [[a]] machine-side cylindrical case to apply driving force to the wheel[[,]]

wherein the brake reaction torque detector includes the machine-side cylindrical case.

6. (Previously Presented) The brake device according to claim 5, wherein the drive device is an electric motor.

7. (Cancelled)

8. (Currently Amended) The brake device according to claim [[7]] 3, wherein the electric motor is an in-wheel electric motor with reduction gears,

wherein the in-wheel electric motor and the reduction gears are arranged in the machine-side cylindrical case fixed to an integral brake caliper in a driving wheel,

wherein the wheel-cylinder pressure modulator valve has a piston and a valve member connected with the piston, one end portion of the piston being arranged in the on-demand brake fluid pressure chamber to receive the on-demand brake ~~torque~~ fluid pressure in a closing direction of the wheel-cylinder pressure modulator valve when the on-demand brake fluid pressure is generated and the valve member opening and closing a valve hole formed in a partition wall between the wheel-cylinder fluid pressure chamber and the return fluid pressure chamber, and

wherein the mechanical feedback mechanism is a first feedback mechanism for modulating the wheel cylinder pressure so that a sum torque of the wheel-cylinder brake torque and the regenerative brake torque applied to the piston through the working arm in the opening direction can be balanced with the on-demand brake torque acting in the closing direction and determined by a product of an on-demand fluid pressure and an effective pressure receiving area of the piston.

9. (Withdrawn – Currently Amended) The brake device according to claim [[7]] 3, wherein the working arm includes a first working arm and a second working arm that is apart from the first working arm,

wherein the electric motor is an on-vehicle electric motor with reduction gears, the electric motor and the reduction gears being arranged in the machine-side cylindrical case which is separated from a brake caliper in a driving wheel,

wherein the wheel-cylinder pressure modulator valve has a first piston and a valve member connected with the first piston, one end portion of the piston being arranged in the on-demand brake fluid pressure chamber to receive the on-demand brake fluid pressure in a closing direction of the wheel-cylinder pressure modulator valve when the on-demand brake fluid pressure is generated, and the valve member opening and closing a valve hole formed in a partition wall between a first wheel-cylinder fluid pressure chamber and the return fluid pressure chamber,

wherein the vehicle body side member is formed with a second wheel-cylinder fluid pressure chamber that is apart from the wheel-cylinder pressure modulator valve and provided with a second piston,

wherein the second working arm receives the regenerative brake torque from a piston rod of the second piston in the opening direction when the wheel-cylinder pressure is generated, and

wherein the mechanical feedback mechanism is a second feedback mechanism for modulating the wheel-cylinder pressure so that a sum torque of the wheel-cylinder brake torque and the regenerative brake torque applied to the first piston through the first working arm in the opening direction can be balanced with the on-demand brake torque acting in the closing direction and determined by a [[the]] product of the on-demand brake fluid pressure and an effective pressure receiving area of the first piston.

10. (Withdrawn – Currently Amended) The brake device according to claim [[7]] 3, wherein the electric motor is an on-vehicle electric motor with reduction gears, the electric motor and the reduction gears being arranged in the machine-side cylindrical case which is separated from a brake caliper in a driving wheel,

wherein the wheel-cylinder pressure modulator valve has a first piston, a second piston and a valve member connected with the first piston and the second piston, one end portion of the first piston being arranged in the on-demand brake fluid pressure chamber to receive the on-demand brake fluid pressure in a closing direction when the on-demand brake fluid pressure is generated, one end portion of the second piston being arranged in the wheel-cylinder fluid pressure chamber to receive the wheel-cylinder [[fluid]] pressure in the opening direction when the wheel-cylinder fluid pressure is generated, and the valve member opening and closing a valve hole formed in a partition wall between the wheel-cylinder fluid pressure chamber and the return fluid pressure chamber, and

wherein the mechanical feedback mechanism is a third feedback mechanism for modulating the wheel-cylinder [[fluid]] pressure so that the sum torque of the regenerative brake torque applied to the first piston through a first working arm in the opening direction and the fluid pressure brake torque due to the wheel-cylinder [[fluid]] pressure in the opening direction and determined by a [[the]] product of the wheel-cylinder [[fluid]] pressure and an

effective pressure receiving area of the second piston can be balanced with the on-demand brake torque acting in the closing direction and determined by a [[the]] product of the on-demand brake fluid pressure and an effective pressure receiving area of the first piston.

11. (Previously Presented) The brake device according to claim 1, wherein the on-demand brake fluid pressure passage is a master-cylinder fluid pressure passage conducting master cylinder fluid pressure generated by a master cylinder according to a brake operation of a brake operating pedal.

12. (Withdrawn – Currently Amended) The brake device according to claim 1, wherein the on-demand brake pressure ~~pressure~~ passage is an ABS brake fluid pressure passage conducting ABS brake fluid pressure from an Antilock Brake System provided at a downstream side of a master cylinder.

13. (Withdrawn) The brake device according to claim 12, further comprising a brake controller configured to stop regenerative brake obtained by an electric motor in an Antilock Braking system operation.

Claims 14-16. (Cancelled)

17. (Withdrawn – Currently Amended) The brake device according to claim [[4]] 1, wherein the fluid pressure brake is provided for applying fluid pressure brake force to the wheel, and wherein the brake reaction torque detector is a caliper member integrally formed with a brake caliper of the fluid pressure brake.

18. (Currently Amended) The brake device according to claim [[2]] 1, wherein the brake reaction torque detector is ~~provided swingably relative to a vehicle body side, being integrated with the fluid pressure brake the wheel-cylinder pressure modulator valve so that the amount of the reaction torque inputted to the fluid pressure brake can be changed into a displacement in a swing movement of the brake reaction torque detector.~~

19. (Currently Amended) The brake device according to claim [[18]] 2, ~~further comprising a drive device that is contained in a machine side cylindrical case to apply driving force to the wheel,~~

wherein the brake reaction torque detector ~~includes the machine side cylindrical case~~ is integrated with the wheel-cylinder pressure modulator valve.

20. (Currently Amended) The brake device according to claim [[3]] 5, wherein the brake reaction torque detector is ~~provided swingably relative to a vehicle body side, being integrated with the fluid pressure brake~~ the wheel-cylinder pressure modulator valve so that the amount of the reaction torque inputted to the fluid pressure brake can be changed into a displacement in a swing movement of the brake reaction torque detector.